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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

SCHEIBEL, ROBERT C

ART UNIT PAPER NUMBER

2666

DATE MAILED: 09/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/742,940

Applicant(s)

HASEGAWA ET AL.

Examiner

Robert C. Scheibel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/20/00 & 5/6/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: on line 22 of page 20, “(5)” should be changed to “(6)”.

Appropriate correction is required.

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: “Resynchronization Control Apparatus of Subscriber Communication Machine and Resynchronization Method”. It is also suggested that the references to “resynchronous control” in the specification and the claims be changed to “resynchronization control”.

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

4. Claims 6, 9, and 17 are objected to because of the following informalities: the phrase “on the basis of correlation” in line 5 (claims 6 and 9) and line 6 (claim 17) should be reworded to “based on correlation”; it is unclear if “the basis” is referring to a previous citation of basis.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims **1-17** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claims **1 and 13** recite the limitation "said communication line" in lines 9-10. There is insufficient antecedent basis for this limitation in the claim. This rejection can be overcome by changing the phrase to "said existing communication line".

8. Claims **1 and 13** recite the limitation "said correlation process" in line 15 (claim 1) and lines 15-16 (claim 13). There is insufficient antecedent basis for this limitation in the claim.

9. Claims **1 and 13** are indefinite because the phrase "specifying a synchronous timing by said correlation process of said correlation processor to establish resynchronization" in lines 14-16 of claim 1 and the phrase "" in lines 15-17 of claim 13 is indefinite. Specifically, it is unclear exactly what subject matter in the specification (other than the similarly worded description in the Summary of Invention section) the applicant intends to claim as the step of "specifying a synchronous timing". Examiner requests that the claim be reworded to more clearly identify the claimed subject matter or that the applicant identify a section of the specification which clearly defines what is meant by this limitation. For the purposes of this office action, this limitation is being given the broadest interpretation that this limitation can be any type of synchronous timing provided to the correlation processor which is involved in the resynchronization.

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10. Claims **2-5, 7 and 8** recite the limitation "said held data" in line 11 (claim 2), line 5 (claim 3), line 5 (claim 4), lines 6, 11, and 22 (claim 5), line 5 (claim 7), and lines 6, 11, and 22 (claim 8). There is insufficient antecedent basis for this limitation in the claim; it is unclear whether the held data of this phrase refers to the held data of claim 1, line 10 or that of claim 2, line 8.

11. Claims **4-9** are indefinite because of the phrases "maximum value determination type correlation operation controller" (lines 8-9 of claim 4), "minimum value determination type correlation operation controller" (lines 12-13 of claim 5), "frame boundary detection type correlation operation controller" (lines 11-12 of claim 6), "maximum value determination type correlation operation controller" (lines 8-9 of claim 7), "minimum value determination type correlation operation controller" (lines 12-13 of claim 8), and "frame boundary detection type correlation operation controller" (lines 11-12 of claim 9). These phrases are indefinite because of the word "type"; this rejection can be overcome by removing the word "type" from these phrases.

12. Claim **4** recites the limitation "said correlation operation" in line 10. There is insufficient antecedent basis for this limitation in the claim.

13. Claim **5** recites the limitation "the absolute value" in line 10. There is insufficient antecedent basis for this limitation in the claim.

14. Lines 9-11 of claim **5** describe a result of a comparison between the first and second value and the absolute value of said held data. The first and second values are derived from the absolute values of the held data. It is unclear what this comparison is doing. Perhaps the

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comparison should be between one of the first and second values and an absolute value of the received data.

15. Claim 5 recites the limitation "said correlation operation" in line 14. There is insufficient antecedent basis for this limitation in the claim.

16. Claim 5 recites the limitation "said coefficient" in 21. There is insufficient antecedent basis for this limitation in the claim. There are two references to "an arbitrary coefficient" earlier in the claim. It is assumed that the applicant intends to refer to one of these two references; the amended claim should make this clear.

17. Claims 6, 9, and 17 recite the limitations "the head" in line 7 (claims 6 and 9) and line 8 (claim 17), "the tail" in line 9 (claims 6 and 9) and line 11 (claim 17), "the same" in line 10 (claims 6 and 9) and line 11 (claim 17), and "said correlation operation" in line 13 (claims 6 and 9) and lines 12-13 (claim 17). There is insufficient antecedent basis for these limitations in the claims.

18. Claim 7 recites the limitation "said correlation operation" in line 10. There is insufficient antecedent basis for this limitation in the claim.

19. Claim 8 recites the limitation "the absolute value" in line 10. There is insufficient antecedent basis for this limitation in the claim. This rejection can be overcome by changing the phrase above to "an absolute value".

20. Claim 8 recites the limitation "said correlation operation" in line 14. There is insufficient antecedent basis for this limitation in the claim.

21. Claim 8 recites the limitation "said coefficient" in line 21. There is insufficient antecedent basis for this limitation in the claim. There are two references to "an arbitrary

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coefficient” earlier in the claim. It is assumed that the applicant intends to refer to one of these two references; the amended claim should make this clear.

22. Claim 15 recites the limitation "said correlation operation" in lines 3-4. There is insufficient antecedent basis for this limitation in the claim.

23. Claim 16 recites the limitation "said correlation operation" in lines 8-9. There is insufficient antecedent basis for this limitation in the claim.

24. Claim 16 recites the limitation "said coefficient" in line 16. There is insufficient antecedent basis for this limitation in the claim. There are two references to “an arbitrary coefficient” earlier in the claim. It is assumed that the applicant intends to refer to one of these two references; the amended claim should make this clear.

25. Claims 10-12, and 14 are rejected because the parent claims 1 and 13 are indefinite as explained above.

Claim Rejections - 35 USC § 102

26. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

27. Claims 1-3 and 13-14 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,627,863 to Aslanis et al.

Regarding claim 1, Aslanis discloses a resynchronous control apparatus (receiver 12 of Figure 1) for a subscriber communication machine which communicates with an office

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communication machine (transmitter 12) over an existing communication line comprising: an off-synchronous detector for detecting off-synchronization of communication with said office communication machine (frame synchronization decision unit 68 of Figure 1; see also lines 3-5 of column 9); a correlation processor for correlatively processing received data received over said communication line and held data having been transmitted from said office communication machine when said off-synchronous detector detects said off-synchronization (correlator 60 of Figure 1); and a resynchronous controller for specifying a synchronous timing by said correlation process of said correlation processor to establish resynchronization in communication with said office communication machine (the store 62 and the complex derotation multiplier 66 drive the correlator to perform correlations on 64 consecutive frames when synchronization loss is detected; this is synchronous timing for the correlator which assists in resynchronization; see lines 23-36 of column 9.) Regarding claim 13, the analogous steps are rejected as above for claim 1.

Regarding claims 2 and 14, Aslanis discloses the limitation of a signal holder (signal holding step) for holding signal data received from said office communication machine in steady communication (store 62 of Figure 1) and the limitation of a correlation operator (correlation operating step) for operating correlation between held data held in said signal holder and received data received after detection of said off-synchronization to detect received data having high correlation with said held data (correlator 60).

Regarding claim 3, Aslanis discloses the limitation of signal holder holds an average value of received data in a particular time section in said steady communication as said held data in the data stored in store 62; the contents of the store are the output of the FEQ in unit 40 as

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specified in lines 21-25 of column 8. These values represent the average (over one synchronization frame) of the received data.

Allowable Subject Matter

28. Claims **4-12, and 15-17** would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

29. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent Application Publication Number 2004/0136405 to Long et al discloses techniques for obtaining and maintaining synchronization of a TTR clock in a TCM-ISDN crosstalk environment. U.S. Patent Application Publication Number 2003/0190000 to Matsumoto and U.S. Patent 5,991,311 to Long et al both describe systems xDSL systems and associated methods for avoiding crosstalk and synchronizing with TCM clocks.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert C. Scheibel whose telephone number is 571-272-3169. The examiner can normally be reached on Monday and Thursday from 6:30-5:00 Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RCS 9-1-04

Robert C. Scheibel
Examiner
Art Unit 2666

Seema S. Rao 9/3/04
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